

REMARKS

This Preliminary Amendment is filed together with the Request for Continued Examination in full and timely response to the Final Action of December 22, 2005, taking into account the Advisory Action of May 9, 2006. A Petition to Extend Time for an Additional Month accompanies this paper.

Entry of After Final Amendment Responsive to Admitted New Grounds of Rejection is Respectfully Requested Under 37 C.F.R. 1.116.

Entry of this After Final Amendment is solicited in that it is a first response to new grounds of rejection relying upon previously cited and applied references, i.e. the U.S. patent to Knopp, No. 6,099,522 (hereafter “Knopp ‘522”) and Knopp, No. 5,865,832 (hereafter “Knopp ‘832”). Accordingly, this response places this case in condition for allowance over the newly-applied references, for at least the reasons that follow. Furthermore, this response places the position of the Applicant before the examiner for consideration should an appeal be needed or necessitated by the new grounds of rejection.

It should be noted that Knopp ‘522 and Knopp ‘832 were previously applied in support of different claims as in the prior response.

Drawings

It is noted with appreciation that the drawings submitted on January 13, 2004 are accepted.

Priority Acknowledgement

It is also noted with appreciation that the priority documents supporting the claim for priority have been received.

Claims

Claims 1 to 3, 5, 8, 9, and 13 to 18 were pending in this application as previously amended. Claims 1 to 3, 5, 8 to 15, and 17 were now rejected as allegedly being anticipated by the newly-applied patent to Knopp '522. "Newly-applied" in this context means that the previously cited patents were newly-applied to the previously amended claims in support of the new grounds of rejection presented in the Final Office Action, necessitated by the Applicant's prior amendment. See the Summary after "Conclusion" on page 4 of the Final Action. Claims 16 and 18 were now rejected as allegedly made obvious in a section 103 sense by the Knopp '522 patent in view of the newly-applied Knopp '832 patent. The former rejection is stated on pages 2 and 3 of the Final Action, while the latter section 103 rejection is stated on 3 and 4 of the Final Action. Further reasons supporting the new grounds of rejection are stated in the Response to Arguments at the top of page 2 of the Final Action.

These positions are respectfully traversed. The reasons for the traversal and the amendments to the pending claims to overcome the cited and applied art follow.

Knopp '522 discloses an apparatus for performing laser interventions having an XYZ tracking system. This XYZ tracking system performs tracking in the direction of an optical axis (a Z direction) of a front focusing objective lens being the direction of an

irradiation axis of a laser beam by a Z tracking (depth ranging) detection system based on the principle of a confocal microscopy disclosed by Fountain, U.S. Pat. No. 5,162,641, and tracking in an X-Y direction orthogonal to the Z direction by an X-Y tracking detection system using quadrant detectors. See the references cited in Knopp '522; a copy of Fountain is herewith provided as relevant to this newly-stated argument.

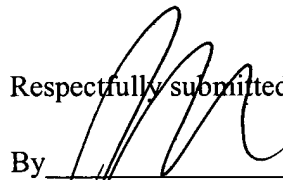
However, the XYZ tracking system disclosed by Knopp '832 cannot detect a direction and an angle of inclination of an eye with respect to an irradiation axis of a laser beam, which is a feature of the present invention as seen in amended claims 1 and 8. A confocal optical system is an optical system which can obtain a high resolution image by arranging a pinhole at an imaging position (in front of a photo-detector) and removing reflection light except for reflection light for a focusing position of an objective lens. When this optical system is applied to a sensor, a photo-receiving amount becomes extremely large at the focusing position to allow it to enable sensing of a displacement amount (height information) of the focusing position. The confocal optical system disclosed in Fountain is constituted so that a photo-receiving signal reaches its peak when a corneal surface is located at the focusing position of the objective lens. That is to say, the confocal optical system disclosed in Fountain merely performs adjustment of a position of the objective lens on the optical axis so as to locate the corneal surface at the focusing position, i.e., adjustment of the focus of the corneal surface position on the optical axis. Accordingly, it is impossible to detect the direction and angle of inclination of the eye by simply combining the Z tracking detection system using this confocal optical system and the X-Y tracking detection system provided separately which utilizes a detection of the photo-receiving amount (contrast of the image) by the quadrant detects therefrom, and Knopp does not suggest a further art so as to make it possible to detect the direction and angle of inclination of the eye.

Claims 1 and 8 are here amended to emphasize these distinctions. Claim 1 calls for a positional displacement detection unit which detects a predetermined position of the patent's eye and detects a direction and amount of positional displacement of the detected position in the two dimensional directions with respect to the irradiation reference axis. Claim 1 also calls for, in the stated combination, an inclination detection unit along the lines of the previously mentioned "duction" unit that detects a direction and angle of inclination of the patent's eye with respect to the irradiation reference axis. Finally, amended claim 1 calls for a movement control unit which obtains control data for the moving unit based on the detected direction and amount of positional displacement and the detected direction and angle of inclination. Claim is similarly constructed in combination.

Neither Knopp reference alone or in combination is believed to disclose or teach the stated combination.

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Respectfully submitted,



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